



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/099,723

03/14/2002

Christopher R. Uhlik

15685P132

1896

45222 7590 09/28/2007
ARRAYCOMM/BLAKELY
1279 OAKMEAD PARKWAY
SUNNYVALE, CA 94085-4040

EXAMINER

DANIEL JR, WILLIE J

ART UNIT

PAPER NUMBER

2617

MAIL DATE

DELIVERY MODE

09/28/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/099,723

Applicant(s)

UHLIK, CHRISTOPHER R.

Examiner

Willie J. Daniel, Jr.

Art Unit

2617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 March 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 68-86 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 68-86 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This action is in response to applicant's communication (including petition and amendment) filed on 08 March 2007. **Claims 68-86** are now pending in the present application and **claims 1-67** are cancelled. This office action is made **Final**.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 68, 74, and 78 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- a. **Claims 68, 74, and 78** include the limitation "...determining a timing reference..." as recited in line(s) 2 of claim 68.

Regarding **claims 68, 74, and 78**, the claims recite language that is not clear and concise in which the Examiner respectfully request the applicant to clarify the claims. For example, claim 70 (or cancelled claim 4) recites the limitation "...using the coupled **computer's clock as a timing reference...**", which describes the timing reference as a component such as a computer **clock**. The limitation in *item a* above appears to be an attempt of describing a time (or cycle) which is not how the limitation "...timing reference..." was applied in the original filed claims. In the current claim language, the limitation "...timing reference..." is applied in alternative forms and **not clear** as to whether or not the limitation of the claim(s) is directed to a **time** or a **component**. The applicant is

advised to review the subject matter of the specification (see pg. 19, [0043, line 3-7]; pg. 22, [0055]; Fig. 3), which basically describes a system clock (3) as a device. Applicant is advised to clearly and concisely provide claim language that is consistent and correlates to the specification and mindful not to improperly utilized language. If the applicant considers the current language to be sufficient, the Examiner respectfully requests page(s), line(s), and/or drawing(s) of the instant application that supports the claim language and any supportive comment(s) to help clarify and resolve this issue(s).

Claim 80-81 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted elements are:

- a. **Claim 80** recites the limitation "...an interrupt signal to CPU operating software..." in line(s) 1-2 of the claim.
- b. **Claim 81** recites the limitation "...an instruction to a power management module ..." in line(s) 1-2 of the claim.

Regarding **claims 80-81**, the claims recite language that is not clear and concise in which the Examiner respectfully request the applicant to clarify the claims. Claim 72 includes a limitation "...sending an interrupt signal..." which is similar to claim 80. For example, the current claim language **does not** indicate that the *interrupt signal of claim 80* or the *instruction of claim 81* is transmitted between components or elements according to the limitation "...to CPU..." (see claim 80) and "...to a power...module..." (see claim 81). If the applicant considers the current language to be sufficient, the Examiner respectfully

Art Unit: 2617

requests page(s), line(s), and/or drawing(s) of the instant application that supports the claim language and any supportive comment(s) to help clarify and resolve this issue(s).

3. Due to the 112 rejection(s) of the current claim language, the Examiner has given a reasonable interpretation of said language and the claims are rejected as broadest and best interpreted.
4. This list of examples is not intended to be exhaustive. The Examiner respectfully requests the applicant to review all claims and clarify the issues as listed above as well as any other issue(s) that are not listed.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 68-85 are rejected under 35 U.S.C. 102(b) as being anticipated by **Hamano et al.** (hereinafter Hamano) (US 5,604,928).

Regarding **claim 68**, Hamano discloses a method comprising:

determining a oscillation circuit (14) which reads on the claimed “timing reference” of a radio transmit-receive unit (3) which reads on the claimed “radio” (see col. 4, lines 50-56; col. 5, lines 14-19; Figs. 1, 7, and 15);

predicting a start of reception of radio signals by the radio (3) based on the timing reference (14) (see col. 4, lines 57-62; col. 5, lines 13-19,61-67; Fig. 2 “ref. 2 and 7”, 3 “ref. 2”), where the radio (3) is provided a channel;

generating a reset signal (10, 226) which reads on the claimed “radio active signal” (see col. 5, lines 13-16,55-56; col. 9, lines 52-53; Figs. 2 “ref. 10”, 7 “ref. 226”), where the system generates signals for operating of the sub-CPU (2);

transmitting the radio active signal (10) to a sub-CPU(2) which reads on the claimed “computer” coupled to the radio (3) by asserting a state on a connector between the radio (3) and the coupled computer (2), the radio active signal (10) affecting the radio interference generated by the coupled computer (2) (see col. 5, lines 13-16,27-47,55-56; col. 6, lines 43-48; col. 9, lines 52-53; Figs. 2 “ref. 10”, 7 “ref. 226”);

determining an end of reception of radio signals by the radio based on the timing reference (see col. 6, lines 11; col. 16, lines 26-30; Fig. 2 “ref. 9”);

generating a radio not active signal (226) (see col. 5, lines 23-27; col. 9, lines 52-53; col. 9, line 65 - col. 10, line 4; Figs. 2 “ref. 10”, 6 “ref. 6”, 7 “ref. 226”), where the system releases the sub-CPU via a signal sent over the control or reset line (10, 226); and

transmitting the radio not active signal (226) to the coupled computer (2) by asserting a state on the connector between the radio and the coupled computer to affect the radio interference generated by the coupled computer (2) (see col. 5, lines 23-31; Figs. 2 “ref. 10”, 6 “ref. 6”, 7 “ref. 226”), where the system releases the sub-CPU via a signal sent over the control or reset line (10, 226).

Regarding **claim 69**, Hamano discloses the method of claim 68, wherein predicting the start of reception comprises predicting the start time of a channel which reads on the claimed “assigned time slot” (see col. 4, lines 50-56; col. 5, lines 14-19, 61-67; Figs. 1-2, 3 “ref. 2”, 7, and 15), where the unit (3) is provided a channel.

Regarding **claim 70**, Hamano discloses the method of claim 69, wherein the assigned time slot is a receive time slot (channel) assigned to the coupled computer (2) and wherein predicting the start time comprises predicting the start time using the coupled computer's clock as a timing reference (14) (see col. 4, lines 50-56; col. 5, lines 14-19; col. 5, line 61 - col. 6, line 3; Fig. 2).

Regarding **claim 71**, Hamano discloses the method of claim 68, wherein transmitting the radio not active signal comprises de-asserting the state on a connector (10, 210) between the radio (3) and the coupled computer (2) (see col. 5, lines 23-27, 55-56; col. 9, lines 52-53; col. 9, line 65 - col. 10, line 4; col. 10, lines 18-19; Figs. 2, 7), where the signal sent via the reset line.

Regarding **claim 72**, Hamano discloses the method of claim 68, wherein asserting the state comprises sending an reset signal (10) which reads on the claimed “interrupt signal” to CPU operating software (2) of the coupled computer (2) (see col. 4, lines 41-47; col. col. 5, lines 14-15, 55-56; Figs. 2).

Regarding **claim 73**, Hamano discloses the method of claim 68, wherein determining the end of reception comprises predicting the end of reception based on the start time and the expected duration of reception (see col. 5, lines 13-26; col. 6, lines 23-28; col. 9, line 51 - col. 10, line 4; Fig. 2 “ref. 2 and ref. 9”, 3, 9).

Regarding **claim 74**, Hamano discloses a machine-readable medium (e.g. memory) having stored thereon data representing instructions which, when executed by a machine, cause the machine to perform operations (see col. 4, lines 33-50; Fig. 1) comprising:

determining a oscillation circuit (14) which reads on the claimed “timing reference” of a radio transmit-receive unit (3) which reads on the claimed “radio” (see col. 4, lines 50-56; col. 5, lines 14-19; Figs. 1, 7, and 15);

predicting a start of reception of radio signals by the radio (3) based on the timing reference (14) (see col. 4, lines 57-62; col. 5, lines 13-19,61-67; Fig. 2 “ref. 2 and 7”, 3 “ref. 2”), where the radio (3) is provided a channel;

generating a reset signal (10, 226) which reads on the claimed “radio active signal” (see col. 5, lines 13-16,55-56; col. 9, lines 52-53; Figs. 2 “ref. 10”, 7 “ref. 226”), where the system generates signals for operating of the sub-CPU (2);

transmitting the radio active signal (10) to a sub-CPU(2) which reads on the claimed “computer” coupled to the radio (3) by asserting a state on a connector between the radio (3) and the coupled computer (2), the radio active signal (10) affecting the radio interference generated by the coupled computer (2) (see col. 5, lines 13-16,27-47,55-56; col. 6, lines 43-48; col. 9, lines 52-53; Figs. 2 “ref. 10”, 7 “ref. 226”);

determining an end of reception of radio signals by the radio based on the timing reference (see col. 6, lines 11; col. 16, lines 26-30; Fig. 2 “ref. 9”);

generating a radio not active signal (226) (see col. 5, lines 23-27; col. 9, lines 52-53; col. 9, line 65 - col. 10, line 4; Figs. 2 “ref. 10”, 6 “ref. 6”, 7 “ref. 226”), where the system releases the sub-CPU via a signal sent over the control or reset line (10, 226); and

transmitting the radio not active signal (226) to the coupled computer (2) by asserting a state on the connector between the radio and the coupled computer to affect the radio interference generated by the coupled computer (2) (see col. 5, lines 23-31; Figs. 2 “ref. 10”, 6 “ref. 6”, 7 “ref. 226”), where the system releases the sub-CPU via a signal sent over the control or reset line (10, 226).

Regarding **claim 75**, Hamano discloses the medium of claim 74, wherein the instructions for transmitting the radio active signal comprises instructions which, when executed by the machine, cause the machine to perform operations comprising sending an instruction over a reset (control) line (8,10, 210, 226) which reads on the claimed “high speed system bus” to the coupled computer (2) (see col. 4, lines 41-42; col. 5, line 14-15,55-56; Figs. 1, 7), where the sub-CPU is instructed to the rest state.

Regarding **claim 76**, Hamano discloses the medium of claim 74, wherein the instructions for sending an instruction comprises sending an instruction which, when executed by the machine, cause the machine to perform further operations comprising sending an instruction to a power supply monitor IC (6) which reads on the claimed “power management module” of the coupled computer (2) (see col. 5, lines 1-6,32-34; Fig. 1 “ref. 1”).

Regarding **claim 77**, Hamano discloses the medium of claim 74, wherein the radio active signal and the radio not active signal comprise a reset signal (10, 210) which reads on the claimed “single signal” indicating the start time and the duration of the radio reception (see col. 5, lines 13-26; col. 6, lines 23-28; col. 9, line 51 - col. 10, line 4; Fig. 2 “ref. 2 and ref. 9”, 3, 9).

Regarding **claim 78**, Hamano discloses a portable electronic device which reads on the claimed “radio” (see col. 4, lines 30-33; col. 9, lines 1-3; Figs. 1, 7, and 15) comprising:

a oscillation circuit (14) which reads on the claimed “timing reference” (see col. 4, lines 50-56; col. 5, lines 14-19; Figs. 1, 7, and 15);

a radio transmit-receive unit (3) which reads on the claimed “receiver” couple to the timing reference (14) (see Fig. 1);

a computer unit (1) which reads on the claimed “processor” coupled to the receiver (3) to determine a timing reference (14), to predict a start of reception of radio signals by the receiver (3) (see col. 5, lines 14-31, 61-67; Figs. 1, 2 “ref. 2, 7”, 3 “ref. 2”, 7-9), where the unit (3) is provided a channel, and

to generate a radio active signal, to determine an end of reception of radio signals by the receiver (3), and to generate a radio not active signal (see col. 5, lines 14-31; Figs. 1-3, 7-9), where the portable electronic device can detect the start and end of radio communication; and

an reset line (8, 10) which reads on the claimed “external interface” to transmit the radio active signal and the radio not active signal to a coupled computer (2) by asserting a state on a connector between the radio and the coupled computer to affect the radio interference generated by the coupled computer (2) (see col. 5, lines 14-31, 55-56; col. 4, lines 41-42; Figs. 1-3, 7-9), where the computer unit communicates with the sub-CPU via the reset line (10) or the control line (8).

Regarding **claim 79**, Hamano discloses the radio of claim 78, wherein the external interface transmits the radio not active signal comprises de-asserting the state on a connector

(10, 210) (see col. 5, lines 23-27,55-56; col. 9, lines 52-53; col. 9, line 65 - col. 10, line 4; col. 10, lines 18-19; Figs. 2, 7), where the signal sent via the reset line.

Regarding **claim 80**, Hamano discloses the radio of claim 78, wherein the radio active signal comprises an reset signal (10) which reads on the claimed “interrupt signal” to CPU operating software (2) of the coupled computer (2) (see col. 4, lines 41-47; col. col. 5, lines 14-15,55-56; Figs. 2).

Regarding **claim 81**, Hamano discloses the radio of claim 78, wherein the radio active signal comprises an instruction to a power supply monitor IC (6) which reads on the claimed “power management module” of the coupled computer (2) (see col. 5, lines 1-6,32-34; Fig. 1 “ref. 1”).

Regarding **claim 82**, Hamano discloses the radio of claim 78, wherein the radio active signal and the radio not active signal comprise a reset signal (10, 210) which reads on the claimed “single signal” indicating the start time and the duration of the radio reception (see col. 5, lines 13-26; col. 6, lines 23-28; col. 9, line 51 - col. 10, line 4; Fig. 2 “ref. 2 and ref. 9”, 3, 9).

Regarding **claim 83**, Hamano discloses the radio of claim 78, wherein radio interference is affected by reducing the system (2) clock rate (see col. 5, lines 14-16; Figs. 1, 7, 15), where the sub-CPU is set to rest state in which the reducing the clock rate would be inherent.

Regarding **claim 84**, Hamano discloses the radio of claim 78, wherein radio interference is affected by turning off a CPU clock of the computer (2) (see col. 5, lines 32-

39; Figs. 1, 7, 15), where the power to the sub-CPU is shut down in which the turning off of the clock would be inherent.

Regarding **claim 85**, Hamano discloses the radio of claim 78, wherein radio interference is affected by interrupting traffic on the computer system bus (see col. 14, lines 11-16; col. 19, lines 18-23; Figs. 7, 14, 15, 22), where the both computer unit (201) and sub-CPU (203) are halted.

Claim 86 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Hamano et al.** (hereinafter Hamano) (US 5,604,928) in view of **Watanabe** (US 6,542,726 B2).

Regarding **claim 86**, Hamano discloses of radio interference is affected by suspending operation of the computer (e.g., sub-CPU 203) (see col. 4, lines 14-31), where the sub-CPU is adjusted between rest and active state. Hamano does not specifically disclose having the feature suspending operation of selected peripheral components of the computer. However, the examiner maintains that the feature suspending operation of selected peripheral components of the computer was well known in the art, as taught by Watanabe.

In the same field of endeavor, Watanabe discloses the feature suspending operation of selected peripheral circuit control unit (102) which reads on the claimed “peripheral components” of the CPU (101) which reads on the claimed “computer” (see col. 4, lines 18-34; col. 5, lines 6-11, 60-64; col. 6, lines 1-34; Figs. 1-3).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Hamano and Watanabe to have the feature suspending operation of selected peripheral components of the computer, in order to

Art Unit: 2617

suppress noise during radio communication (see col. 3, lines 26-28,51-53), as taught by

Watanabe.

Response to Arguments

6. Applicant's arguments with respect to claims 68-86 have been considered but are moot in view of the new ground(s) of rejection necessitated by the new claims.

In response to applicant's arguments, the Examiner respectfully disagrees as the applied reference(s) provide more than adequate support and to further clarify (see the above claims for relevant citations).

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Willie J. Daniel, Jr. whose telephone number is (571) 272-7907. The examiner can normally be reached on 8:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Appiah can be reached on (571) 272-7904. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/WJD,JR/

WJD,JR
25 September 2007


CHARLES N. APPIAH
SUPERVISORY PATENT EXAMINER